What's that rash? Recognize community-acquired MRSA

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Series Editor

Principal Source: Stryjewski ME, Chambers HF. Skin and soft tissue infections caused by community-acquired methicillin-resistant *Staphylococcus aureus*. *Clin Infect Dis* 2008;46:S368-77.

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Some patients at high risk for mental illness—intravenous drug users, prisoners, human immunodeficiency virus-positive patients, and the homeless—also are at risk of community-acquired, methicillin-resistant *Staphylococcus aureus* (CA-MRSA) infections.[1] Because your patients may present with CA-MRSA symptoms, you need a basic understanding of this infection's risk factors and clinical features to initiate necessary referrals (***Table, page 49***).[2]

Risk factors and transmission

CA-MRSA accounts for 78% of skin and soft tissue infections in emergency rooms.[3] Patients typically have no known risk factors for infection or health-related exposures, such as recent hospitalization or employment in a healthcare setting. Persons who have taken antibiotics in the past 12 months are at increased risk.[1,3,4]

Infection spreads by person-to-person contact. In the community, crowding and sharing personal items also facilitate transmission, which accounts for increased risk among military personnel and athletes in contact sports.[1] Therefore, caution psychiatric patients against sharing personal hygiene items, such as towels, and instruct infected patients to keep abscess sites covered at all times. Stress the importance of consistent handwashing.

Infection also may be acquired through a skin abrasion, although many infected patients do not remember having local skin trauma.

Clinical presentation. Unlike diffuse drug eruptions associated with psychotropic hypersensitivity reactions, skin involvement caused by CA-MRSA typically is limited. Patients generally present with a warm, swollen, and erythematous area of skin or a circumscribed abscess involving a hair follicle.[1] Often patients attribute symptoms to a recent spider bite or report that a family member or friend has a similar rash or lesion.[3]

Single lesions on the extremities are common, although multiple "boils" are possible. Fluctuance—a wavelike motion beneath the lesion when pressure is applied—may be present. Fever and chills usually are absent unless the infection is invasive or systemic (***Photo, page 49***). Serious forms of infection—such as impetigo and necrotizing fasciitis—are less common, although the latter has been reported more frequently among IV drug users.[1]

Treatment. Although the prognosis for most CA-MRSA skin and soft tissue infections is favorable, serious and potentially life-threatening complications can emerge.[1] Most infections can be treated successfully with antibiotics and—when an abscess is present—incision and drainage performed in a primary care physician's office. Trimethoprim-sulfamethoxazole—a commonly used antibiotic—can decrease serum levels of tricyclic antidepressants and prolong the QT interval. Be aware of this interaction

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Table

Features of community-acquired MRSA infections

At-risk populations	HIV infection, IV drug users, homeless, men who have sex with men, tattoo recipients, individuals living in close quarters such as group homes or prisons May affect healthy individuals without risk factors
Clinical presentation	Small, hard, red, painful lesions that resemble a spider bite Most common: skin infections such as a boil, abscess, or cellulitis Less common: bone and joint infections, pneumonia
Transmission	Skin-to-skin contact with infected persons Sharing personal hygiene items, such as towels, with infected persons Skin breaks
Symptoms requiring emergent referral	Fever, shortness of breath, hypotension, or other systemic symptoms Rapidly spreading lesion

Source: Reference 2

in patients receiving antipsychotics, which also can prolong the QT interval.

Referral to a primary care physician for further management is appropriate for afebrile patients without a history of immunosuppression who present with localized rash involving 1 extremity. Severe infection with bacteremia or other systemic involvement is possible, especially in patients age ≥65.[5] Consider ER referral for patients with:

- compromised immune systems
- high fever and/or chills
- rapidly progressing symptoms
- signs and symptoms consistent with systemic illness, such as shortness of breath or low blood pressure
- disease involving >1 extremity or multiple abscesses.

Practice Points

- **A single boil, abscess, or small, red, painful lesion suggests a community-acquired, methicillin-resistant *Staphylococcus aureus* (CA-MRSA) skin infection.**
- **Be aware of the clinical presentation of CA-MRSA infections to facilitate necessary referrals to a primary care physician or ER.**
- **Educate your patients at risk for CA-MRSA skin infections to protect themselves and avoid transmitting infection to others.**

References

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Related Resources

- Centers for Disease Control and Prevention. Overview of community-associated MRSA. www.cdc.gov/ncidod/dhqp/ar_mrsa_ca.html.
- Zeller JL, Burke AE, Glass RM. JAMA patient page. MRSA infections. *JAMA* 2007;298(15):1826. Available at: http://jama.ama-assn.org/cgi/content/full/298/15/1826.

Drug Brand Name

Trimethoprim-sulfamethoxazole • Bactrim, Septra

Disclosures

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Clinical Point

Most infections can be treated successfully with antibiotics and incision and drainage when an abscess is present